To the knowledge of Macroheterocera of Southeast Asia and New Guinea. I. Snouted Tiger moths (Lepidoptera: Aganaidae) of Papua Province, Indonesia

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Abstract: A small collection containing eight species of snouted tiger moths, family Aganaidae (Lepidoptera: Noctuoidea), from the western part of the island of New Guinea is presented and illustrated. Bibliography of this group is discussed. Synonymy is given.

Key words: Lepidoptera, Aganaidae, Indonesia, Papua Province, New Guinea.

Introduction

The present article begins a series of publications dealing with Macroheterocera (Lepidoptera) of Southeast Asia and New Guinea. A rather abundant material for the series has been collected by the authors and our colleagues in various places of this highly interesting region. The first publication is devoted to the snouted tiger moths (Lepidoptera: Aganaidae) of the Indonesian part of the island of New Guinea. The material was collected by the second author and V.V. Sinyaev ("Eco-Design Studio", Moscow, Russia) in the following three localities of Papua Province from the late December of 2008 to the beginning of February 2009.

Collecting site 1 (Plate 5 figs 1-2) is an agricultural land in the foothills of Cyclops Mountains, with remnants of a primary forest on steep slopes and a secondary vegetation in the floodplain, cocoa plantations, banana and vegetable crops. The exact locality is as follows: Indonesia, W New Guinea, Papua, Sentani env., Cyclops Mts., 02°32'S, 140°28'E, ca. 300 m a.s.l., 26-29.XII.2008 and 03-06.II.2009.

Collecting site 2 (Plate 5 figs 3-4) is a primary rain forest on the slopes with local fellings for vegetable gardens. The exact locality is the following: Indonesia, W New Guinea, Papua, Genyem env., 02°38'S, 140°10'E, ca 500 m a.s.l., 30.XII.2008-02.I.2009 and 25.I-02.II.2009.

Collecting site 3 (Plate 5 figs 5-6) is a lowland primary rain forest in a valley, sometimes boggy, with an abandoned village on the river bank. The exact locality is as follows: Indonesia, W New Guinea, Papua, Taritatu riv., SE from Dabra, 03°15'S, 138°34'E, ca. 60 m a.s.l., 05-16.I.2009.

Up to now there has been no consensus among researchers as to the status of this group and its place in the classification of Lepidoptera. It has been assigned either to Lithosiidae (Snellen 1888) or Arctiidae (Seitz 1914; Watson 1980), or Noctuidae (Holloway 1988), or referred to as a distinct family (Inoue et al. 1982; Speidel et al. 1996; Kuznetzov, Stekolnikov 2001). Now, based on the results of chemical and molecular studies (Zahiri et al. 2010, 2012), this group is being placed in the rank of a subfamily in the Erebidae Leach, 1815.

Here we do not intend to address the problems of the systematics of higher taxa of Lepidoptera, yet we consider it necessary to give our opinion concerning the study methods and their application to taxonomic issues. Certainly, we agree that all currently used classifications of Lepidoptera have the right to exist, but at the same time any student is free to choose and use the system he or she considers the most adequate.

Regarding the classification of the Noctuoidea proposed by Zahiri et al. (2010, 2012), both their cluster analysis and all of its modifications have certain drawbacks and limitations. In particular, the

composition and number of clusters depends on the criteria selected for analysis. Besides this, the application of different methods of cluster analysis for different data of a certain range of objects can lead to very different results. Furthermore, despite the fact that cluster analyses use a hierarchical strategy in their calculations, this hierarchy is not what is meant in the hierarchical taxonomy of biological objects where all taxa are strictly ranked. One should also keep in mind that the sequence of nucleotides in the DNA macromolecule is not yet a biological organism. Therefore, the phylogenetic hypothesis proposed by Zahiri et al. (2010, 2012) on the basis of a cluster analysis of DNA sequence data of a few genes can be taken as only one of the possible, whereas the taxonomic rank of the clusters remains purely subjective. Observing this group of moths in nature, we can agree neither with Minet (1986) and Holloway (1988) nor with Zahiri et al. (2010, 2012), following instead the opinion of Speidel et al. (1996) and Kuznetzov & Stekolnikov (2001) who regard Aganaidae as a distinct family of Noctuoidea.

Because the species of Aganaidae are widespread and most of them have subspecies or forms, we have restricted the synonymy lists mainly to the taxa which have been described from New Guinea and neighbouring archipelagos. In addition, we exclude all homonyms and infrasubspecific names. All of the synonyms in the text are given in the quotation marks because they have been checked in original publications.

At present, only 11 Aganaidae species from four genera have been reported from the island of New Guinea (Zwier 2011). We have found eight species representing three genera. All of them have been taken from new localities, thus providing new faunistic records. All taxa mentioned and illustrated herein are housed in the collection of the second author.

Key to the genera of Aganaidae Boisduval, 1833 (Lepidoptera: Noctuoidea) of Papua Province, Indonesia based on external characters

1 Alar expanse less than 30 mm; forewing sepia-brown with a broad, irregular greyish-white band, spotted here and there with brown ..... *Digama* Moore, 1860 (*D. marmorea*)
– Alar expanse more than 35 mm; forewing pattern different 2
2 Forewing bright yellow with a few light brown spots; hindwing entirely bright yellow .....
..... *Agape* Felder, 1875 (*A. chloropyga*) (Plate 6 figs 1-2)
– Fore- and hindwing with different colour pattern 3
3 Forewing grey with strong blue sheen, with white to dirty-white veins; hindwing white with a broad black with strong blue sheen outer margin, with a large black discal spot .....
..... *Neochera* Hübner, 1819 ["1816"] (*N. dominia*) (Plate 6 figs 3-4)
– Forewing yellow, brown, dark brown or black with spotted or longitudinal pattern type; hindwing without a large black discal spot ..... *Asota* Hübner, 1819 ["1816"]

List of the Aganaidae Boisduval, 1833 (Lepidoptera: Noctuoidea) of Papua Province, Indonesia

Genus ***Agape* Felder, 1875** [1]
"*Agape* ..." - Felder R. in Felder C., Felder R. & Rogenhofer 1875: [1], Tab. 106, Fig. 4. Type species: *Agape cyanopyga* Felder, 1875 [= *Hypsa chloropyga* Walker, 1854], by monotypy.
= "*Spilobotys*, gen. nov." - Butler 1887b: 123. Type species: *Spilobotys arctioides* Butler, 1887, by monotypy.

1 – According to Higgins (1963), the publication date of fourth booklet (Helf 4) in the Lepidoptera section of the "Navara Reise" must be considered as January 5th, 1875, not 1874.

Note: A small genus comprising only up to five species.
Distribution: The Oriental and Australian regions from India in the west and southern China in the north to northern Australia and Vanuatu in the south and southeast.

***Agape chloropyga* (Walker, 1854)** (Plate 6 figs 1-2)
"*Hypsa chloropyga*." - Walker 1854: 455. Type locality: "Australia".
= "*Hypsa analis*." - Walker 1856: 1677. Type locality: "Ceram" [= Indonesia, Moluccas, Seram Island].
= "*Agape cyanopyga* F." - Felder R. in Felder C., Felder R. & Rogenhofer 1875: [1], Tab. 106, Fig. 4. Type locality: "Amboina (Doleschall), Luzon




(Semper)" (explanation to the plates) [= Indonesia, Moluccas, Ambon Island; the Philippines, Luzon Island].
= "[*Agape*] *chloropyga* var. *snelleni* n. var." - Gaede 1914: 74. Type locality: "... aus Ceram" [= Indonesia, Moluccas, Seram Island].

Material examined: 3♂ Indonesia, Papua, Genyem env., 02°38'S, 140°10'E, 500 m, 30.XII.2008-02.I.2009; 1♂ (Plate 6 figs 1-2), same locality, 25-26.I. 2009.
Note: The species cannot be confused with any other aganaid by the peculiar coloration of the forewing and abdomen. At present, the species is not divided into subspecies.
Distribution: This species is the most widespread in the genus, ranging from India in the west, southern China in the north, northern Australia in the south and the Solomon Islands in the east.

Genus ***Neochera* Hübner, 1819 ["1816"]**
"*Neochera* ..." - Hübner 1819 ["1816"]: 173. Type species: *Phalaena dominia* Cramer, 1780, by subsequent designation by Kirby (1892: 389).
= "*Philona*." - Walker 1854: 456. Type species: *Hypsa inops* Walker, 1854, by monotypy.

Note: A small genus consisting of four species only.
Distribution: The Oriental and Australian regions from the state of Sikkim in India in the west to Papua New Guinea in the east, and from the province of Hubei, China in the north to the central parts of Australia in the south.

***Neochera dominia* (Cramer, 1780)** (Plate 6 figs 3-4)
"[*Phalaena*] *Dominia*." - Cramer 1780: 123, pl. 258, figs A, B. Type locality: "... Côte de Coromandel, ..." [= India: Coromandel coast].
= "[*Phalaena*] *Eugenia*." - Stoll in Cramer 1782: 235, pl. 398, fig. M. Type locality: "... de l'Isle Molucque d'Amboine" [= Indonesia: Maluku, Ambon Island].
= "*Neochera stibostethia*, n. sp." - Butler 1875: 329. Type locality: "Bourou ..." [= Indonesia: Maluku, Buru Island].
= "*Aganais Eugenia* Gram. Var. *Herpa* Walker ..." - Snellen 1879: 78. Type locality: "Bonthain" [= Indonesia: South Sulawesi, Bantaeng].
= "*Hyps*.[*a*] *basilissa*, n. sp." - Meyrick 1886: 767. Type locality: "Cooktown and Cairns, Queensland; ..." [= Australia: Queensland, Cooktown].
= "*Neochera eugenia javana* Rothsch. subsp. nov." - Rothschild in Rothschild, Jordan 1896: 198. Type locality: "Java" [= Indonesia: Java].
= "*Neochera eugenia fumosa* Rothsch. subsp. nov." - Rothschild in Rothschild, Jordan 1896: 198. Type locality: "Sambawa (type; ...); Pulu Laut. ...; Pura ... ." [= Indonesia: West Nusa Tenggara, Sumbawa Island].
= "*Neochera eugenia proxima* Rothsch. subsp. nov." - Rothschild in Rothschild, Jordan 1896: 199. Type locality: "Timor (...type; Oinainisa ...); Alor ...; Adonara ...; Kalao ...; Port Darwin, N.W. Australia ..." [= East Timor].
= "*Neochera eugenia affinis* Rothsch. subsp. nov." - Rothschild in Rothschild, Jordan 1896: 200. Type locality: "Halmahera (type;...); Ternate ...; Batjan ...; Morotai ..." [= Indonesia: North Maluku, Halmahera].
= "*Neochera eugenia papuana* Rothsch. subsp. nov." - Rothschild in Rothschild, Jordan 1896: 200. Type locality: "Dutch and German N. Guinea (type from Humboldt Bay); Waigen [= Waigeo]; Aru; Mysol; and probably all the islands near the western peninsula of N. Guinea." [= Indonesia: Papua: Yos Sudarso Bay].
= "*Neochera eugenia fuscipennis* Rothsch. subsp. nov." - Rothschild in Rothschild, Jordan 1896: 201. Type locality: "New Britain ..." [= Papua New Guinea: New Britain Island].
= "*Neochera* Hbn. *contraria* spec. nov." - Reich 1936: 419. Type locality: "Neu-Hebriden" [= Republic of Vanuatu].

Material examined: 3♂ & 1♀ Indonesia, Papua, Genyem env., 02°38'S, 140°10'E, 500 m, 30.XII.2008-02.I.2009; 1♂ & 1♀, same locality, 25.I-02.II.2009; 1♀ (Plate 6 figs 3-4), same locality an date; 1♂, same locality, 30.I.2009; 2♂, Indonesia, Papua, Taritatu riv., SE from Dabra, 03°15'S, 138°34'E, 60 m, 05-16.I.2009.
Note: Based on the coloration of the wings, this is a well-defined species among Aganaidae. Currently, there are about two dozen subspecies that often live sympatrically, this actually meaning that all of them are in need of a serious revision. In New Guinea, the subspecies *papuana* Rothschild, 1896 is known to occur.
Distribution: *N. dominia* is the most widespread species of the genus, being known almost everywhere in the Oriental and Australian regions.

Genus **Asota Hübner, 1819 ["1816"]**
"*Asota* ..." - Hübner 1819 ["1816"]: 164. Type species: *Phalaena javana* Cramer, 1780, by subsequent designation by Jordan in Rothschild, Jordan (1896: 203).




= "*Hypsa* ..." - Hübner 1819 ["1816"]: 172. Type species: *Phalaena silvandra* Stoll, 1781 [= *Phalaena heliconia* Linnaeus, 1758], by subsequent designation by Kirby (1892: 388).
= "*Psephea* Eg." - Billberg 1820: 86. Type species: *Noctua caricae* Fabricius, 1775, by original designation.
= "Genre *Aganais*. Boisd." - Boisduval 1832: 248. Type species: *Noctua caricae* Fabricius, 1775, by subsequent designation by Kirby (1892: 385 [2]).

Note: This is the largest genus in the family. It contains slightly more than 50 species. Unfortunately, many of the species-level taxa described in this genus are in need of revision.
Distribution: The Afrotropical, Oriental and Australian regions from Sierra Leone and Togo in the west and from Hubei Province, central China in the north to the southeastern part of Queensland, Australia in the south and the Solomon Islands in the East.

***Asota australis* (Boisduval, 1832)** (Plate figs 5-6)
"*Aganais australis*. Boisd." - Boisduval 1832: 252, pl. 5, fig. 3. Type locality: "Nouvelle-Guinée" [= New Guinea].
= "*Hypsa aequalis*." - Walker 1864: 214. Type locality: "Aru" [= Indonesia, Moluccas, Aru islands].
= "*A.*[*sota*] *australis sinuosa* subsp. nov." - Rothschild in Rothschild, Jordan 1897: 329. Type locality: "Amboina ... Buru, ..." [= Indonesia, Moluccas, Ambon Id., Buru Island].
= "*A.*[*sota*] *australis septentrionalis* subsp. nov." - Rothschild in Rothschild, Jordan 1897: 330. Type locality: "Halmahera ..., ... Batjan ..." [= Indonesia, Moluccas, Bacan Island].
= "*A.*[*sota*] *australis lineata* subsp. nov." - Rothschild in Rothschild, Jordan 1897: 330. Type locality: "Kei Tocal ..." [= Indonesia, Moluccas, Kei Islands].
= "*A.*[*sota*] *australis assimilis* subsp. nov." - Rothschild in Rothschild, Jordan 1897: 330. Type locality: "Port Darwin, N.W. Australia, ...".

Material examined: 1♂ (Plate 6 figs 5-6), Indonesia, Papua, Genyem env., 02°38'S, 140°10'E, 500 m, 25.I-02.II. 2009.
Note: Currently, this species has been divided on a few subspecies which, in our opinion, are in need of a serious revision. Very likely, they are only individual forms of one species.
Distribution: The species is known from New Guinea and neighbouring islands, as well as the northern and eastern parts of Australia.

Key to *Asota* Hübner, 1819 species of Papua Province, Indonesia by wing pattern

1 Hindwing entirely black with strong blue sheen ..... *A. eusemioides* (Plate 6, figs 13–16)
– Hindwing yellow or white with or without dark pattern 2
2 Hindwing with yellow ground colour 3
– Hindwing with white ground colour 7
3 Hindwing with black spots ..... *A. caricae* (Plate 7, figs 17–18)
– Hindwing without black spots 4
4 Forewing yellow with brown veins, without discal spot ..... *A. vulvia*
– Forewing with contrast veins and with a yellow discal spot 5
5 Forewing with a small discal spot only ..... *A. strigosa* (Plate 7, figs 25–26)
– Forewing with discal and antemedial spots 6
6 Forewing with pale yellow spots ..... *A. australis* (Plate 6, figs 11–12)
– Forewing with yellow to yellow-orange spots, if spots pale yellow then hindwing completely yellow ..... *A. orbona*
7 Forewing with a large white spot medially; hindwing white anally ..... *A. plana* (Plate 7, figs 23–24)
– Forewing with a clavate white spot on Cu-stem and discal vein; hindwing black anally ..... *A. heliconia* (Plate 7, figs 19–22)

Asota caricae (Fabricius, 1775) (Plate 7 figs 1-2)
"*Noctua Caricae*." - Fabricius 1775: 596 [3]. Type locality: "... Indiae orientalis" [= Eastern India].
= "[*Phalaena*] *Alciphron*." - Cramer 1775: 58,

2 – Previous indications that the type species of the genus had been fixed by monotypy (Watson et al. 1980) are incorrect, because the original description of *Aganais* had included six species. Besides this, the proposal of *Aganais borbonica* Boisduval, 1833 as the type species by Snellen (1888) is invalid, because originally Boisduval had not included this species in the genus.

3 – The priority of the papers on Lepidoptera published in 1775 has been fixed under the Plenary Powers of the International Commission on Zoological Nomenclature (ICZN 1958).




pl. 133, fig. E [4]. Type locality: "... de la Côte de Coromandel à Tranquebar" [= India: Tamil Nadu, Tharangambadi].
= "*A.*[*sota*] *caricae euroa* subsp. nov." - Rothschild in Rothschild, Jordan 1897: 316. Type locality: "Solomon Islands: Alu ..." [= Solomon Islands: Shortland Island].
= "*Asota anawa*, nov." - Swinhoe 1903: 66. Type locality: "Bukit Besar, Nawngchik; Biserat, Jalor." [= southern Thailand: Pattani and Yala provinces].

Material examined: 1♂ (Plate 7 figs 1-2), Indonesia, Papua, Sentani env., Cyclops Mts., 02°32'S, 140°28'E, 300 m, 26-29.XII.2008.
Note: This is the most common and, based on hindwing coloration, the most easily recognizable species of *Asota*. We believe that all of its described subspecies are simply its individual forms.
Distribution: This species is widespread nearly across the entire Austro-Oriental Region from the state of Sikkim in India to the Solomon Islands. It is also known in Queensland, Australia.

***Asota eusemioides* (Felder, 1875)** (Plate 6 figs 7-10)
"*Aganais eusemioides* F." - Felder R. in Felder C., Felder R. & Rogenhofer 1875: [1], Tab. 106, Fig. 1. Type locality: "Nov. Guinea" (explanations to the plates) [= New Guinea].
= "*A.*[*sota*] *versicolor subrupta* subsp. nov." - Rothschild in Rothschild, Jordan 1897: 337. Type locality: "Duke of York I." [= Papua New Guinea: East New Britain Province, Duke of York Island].
= "*Asota albiluna* Rothsch., sp. nov." - Rothschild in Rothschild, Jordan 1899: 433. Type locality: "Milne Bay, Dutch N. Guinea, ..." [= Papua New Guinea: Milne Bay].
= "[*Asota versicolor*] Form ... *novohibernica* ..." - Pagenstecher 1900: 48. Type locality: "... von Neu-Mecklenburg" [= Papua New Guinea: New Ireland Province, New Ireland Island].

Material examined: 1♂ (Plate 6 figs 7-8), Indonesia, Papua, Genyem env., 02°38'S, 140°10'E, 500 m, 30.I.2009; 1♂, same locality and date; 1♂, same locality, 31.I.2009; 1♂ Indonesia, Papua, Genyem env., 02°38'S, 140°10'E, 500 m, 25.I-02.II. 2009; 1♀ (Plate 6 figs 9-10), same locality and date.
Note: Due to the dark coloration of the hindwing, this species cannot be confused with any other aganaid of New Guinea.

4 – Pages 1-132 and plates 1-84 of Cramer's work were published in 1775 (Fletcher, Nye 1982).

Distribution: This species is known from Sulawesi and New Guinea with surrounding islands.

***Asota heliconia* (Linnaeus, 1758)** (Plate 7 figs 3-6)
"*Phalaena*. ...*heliconia*." - Linnaeus 1758: 511. Type locality: "... in Calidis regionibus." [= Indonesia: Maluku, Ambon Island].
= "[*Noctua*] *Dama*." - Fabricius 1775: 596. Type locality: "... in nova Hollandia" [= Australia].
= "*A.*[*ganais*] *Doryca*. Boisd." - Boisduval 1832: 251. Type locality: "... à la Nouvelle-Guinée" [= New Guinea].
= "*Hypsa intacta*." - Walker 1854: 451. Type locality: "Java" [= Indonesia: Java].
= "*Hypsa leuconeura*, n. sp." - Butler 1879: 161. Type locality: "... New Ireland ..." [= Papua New Guinea: New Ireland Province, New Ireland Island].
= "*Hypsa semifusca*, sp. n." - Butler 1887a: 220. Type locality: "Alu ..." [= Solomon Islands: Western Province, Shortland Island].
= "*Hypsa malisa*. n. sp." - Swinhoe 1892: 87. Type locality: "North Halmaheira ..." [= Indonesia: North Maluku, Halmahera Island].
= "*Hypsa ghara*. n. sp." - Swinhoe 1892: 89, pl. 3, fig. 1. Type locality: "Ké Island" [= Indonesia: Maluku, Kei Islands].
= "*A.*[*sota*] *heliconia enganensis* subsp. nov." -Rothschild in Rothschild, Jordan 1897: 345. Type locality: "Engano Island, ..." [= Indonesia: Bengkulu, Enggano Island].
= "*A.*[*sota*] *heliconia timorana* subsp. nov." - Rothschild in Rothschild, Jordan 1897: 349. Type locality: "Timor: Dili, Portuguese Timor ..., Oinainisa, Dutch Timor ..." [= Indonesia / East Timor: Timor Island].
= "*A.*[*sota*] *heliconia kalaonica* subsp. nov." - Rothschild in Rothschild, Jordan 1897: 349. Type locality: "Kalao Island, south of Celebes ..." [= Indonesia: Sulawesi Tenggara, Pulau Kalao].
= "*A.*[*sota*] *heliconia sangirensis* subsp. nov." - Rothschild in Rothschild, Jordan 1897: 351. Type locality: "Sangir Is. ..." [= Indonesia: North Sulawesi, Sangir Island].
= "*A.*[*sota*] *heliconia bandana* subsp. nov." - Rothschild in Rothschild, Jordan 1897: 354. Type locality: "Banda Islands ..." [= Indonesia: Maluku, Banda Islands].
= "*A.*[*sota*] *heliconia kiriwinae* subsp. nov." - Rothschild in Rothschild, Jordan 1897: 356. Type locality: "Kiriwina, Trobriand Islands ..." [= Papua New Guinea: Milne Bay Province, Kiriwina Island].
= "*Aganais* (*Asota*) *unicolor* n. sp." - Hagen 1902: 338. Type locality: "... den Mentawej-Inseln." [= Indonesia: West Sumatra, Mentawai Islands].




= "*Asota latiradia*, nov." - Swinhoe 1905: 618. Type locality: "Babber Island, west of Timor-Laut; ..." [= Indonesia: Maluku, Barbar Island].
= "*Asota heliconia toekangbesiensis* nov. subsp." - Jurriaanse, Lindemans 1920: 34, pl. 5, figs 531, 532. Type locality: "... van den Toekang Besie Arch." [= Indonesia: Southeast Sulawesi, Tukangbesi Islands].
= "*A.*[*sota*] *heliconia atrata* subsp. nov." - Jordan 1924: xxxv. Type locality: "St. Mathias and Squally ..." [= Papua New Guinea: Bismarck Archipelago, St. Mathias Island].

Material examined: 1♂ Indonesia, Papua, Sentani env., Cyclops Mts., 02°32'S, 140°28'E, 300 m, 26-29.XII.2008; 1♀ (Plate 7 figs 5-6), same locality, 28.XII.2008; 1♂, same locality, 03.II.2009; 1♀ Indonesia, Papua, Genyem env., 02°38'S, 140°10'E, 500 m, 31.XII.2008; 1♂ (Plate 7 figs 3-4), same locality, 25-26.I.2009; 1♀, same locality and date; 4♂, same locality, 25.I-02.II.2009; 1♂, same locality, 27.I.2009; 5♂ & 1♀, same locality, 30.I.2009; 1♂ Indonesia, Papua, Taritatu riv., SE from Dabra, 03°15'S, 138°34'E, 60 m, 05-16.I.2009.
Note: In the original description, Linnaeus (1758) noted this species as living "in Calidis regionibus", or warm regions. Somewhat later, he wrote that "*Phalaena Noctua heliconia*" "Habitat in Indiis" (Linnaeus 1764: 385). In his work, Seitz (1914: 231) wrote, "As the typical *heliconia* L. ... I consider the form occurring in the Moluccas, Solomon Islands and the Bismarck Archipelago, where Linné found a specimen from Amboina". Following Seitz, the island of Ambon must be considered as the type locality of this species. Seitz also stated, "Of this very common butterfly distributed over a great part of the Indian region more than 30 forms have been described" (l.c.: 231). Now we can add that most of them are simply individual forms without any status in nomenclature.
Distribution: "One of the most widely distributed and very common species ..., which ranges from India to the Solomons..." (Jordan 1924: xxxiv).

***Asota plana* (Walker, 1854)** (Plate 7 figs 7-8)
"*Hypsa plana*." - Walker 1854: 450. Type locality: "Java. ... Ceylon. ... Silhet." [= Indonesia: Java [5]].
= "*Hypsa complana*." – Walker 1864: 213. Type locality: "Timor" [= Indonesia / East Timor: Timor Island].
= "*Aganais albifera* F." - Felder R. in Felder C., Felder R. & Rogenhofer 1875: [1], Tab. 106, Fig. 3. Type locality: "Celebes, Java, Borneo ..." [= Borneo [6]].
= "*A.*[*sota*] *plana transiens* subsp. nov." - Rothschild in Rothschild, Jordan 1897: 359. Type locality: "Endano ..." [= Indonesia: Bengkulu, Enggano Island].
"*A.*[*sota*] *plana centralis* subsp. nov." - Rothschild in Rothschild, Jordan 1897: 360. Type locality: "S. Celebes: Lompa Battan, ... Macassar, ... Bantimoerong, ..." [= Indonesia: South Sulawesi, environs of Makassar].
= "*A.*[*sota*] *plana cincta* subsp. nov." - Rothschild *in* Rothschild, Jordan 1897: 361. Type locality: "Buru ..." [= Indonesia: Maluku, Buru Island].
= "*A.*[*sota*] *plana commixta* subsp. nov." - Rothschild in Rothschild, Jordan 1897: 361. Type locality: "Dutch N. Guinea: Humboldt Bay ..., Etna Bay ..." [= Indonesia: Papua: Yos Sudarso Bay].
= "*A.*[*sota*] *plana fergussonis* subsp. nov." - Rothschild in Rothschild, Jordan 1897: 362. Type locality: "Fergusson I., D'Entrecasteaux Is. ..." [= Papua New Guinea: D'Entrecasteaux Islands, Fergusson Island].

Material examined: 1♀ (Plate 7 figs 7-8), Indonesia, Papua, Genyem env., 02°38'S, 140°10'E, 500 m, 25.I-02.II.2009.
Note: Based on the broadly white forewing, this species is clearly distinguished from all other *Asota* in New Guinea. Like in the previous one, numerous species-group taxa have also been described within this species. In general, their taxonomic status remains unclear, but it is assumed that the subspecies *commixta* Rothschild, 1897 inhabits New Guinea.
Distribution: This species is widely distributed in the Oriental Region and New Guinea with the adjacent islands.

***Asota strigosa* (Boisduval, 1832)** (Plate 7 figs 9-10)
"[*Aganais*] *Strigosa*. Boisd." - Boisduval 1832: 250. Type locality. "... à la Nouvelle-Guinée." [= New Guinea].

Material examined: 1♂ Indonesia, Papua, Genyem env., 02°38'S, 140°10'E, 500 m, 500 m, 30.XII.2008-02.I.2009; 1♂ (Plate 7 figs 9-10), same locality, 31.XII.2008; 1♂, same locality and

5 – Since no lectotype of the nominotypical subspecies has been selected and fixed yet, we follow the opinion of K. Jordan (Rothschild, Jordan 1897: 360) and regard the island of Java as the type locality of the species.

6 – This locality was referred to as type by K. Jordan (Rothschild, Jordan 1897: 359), even though no lectotype of this taxon has been selected yet.




date; 1♂, same locality, 25.I-02.II.2009.
Note: This species somewhat resembles *A. caricae* (F.), but clearly differs by the coloration of the hindwing which is unspotted.
Distribution: The species is restricted to New Guinea and some adjacent islands.

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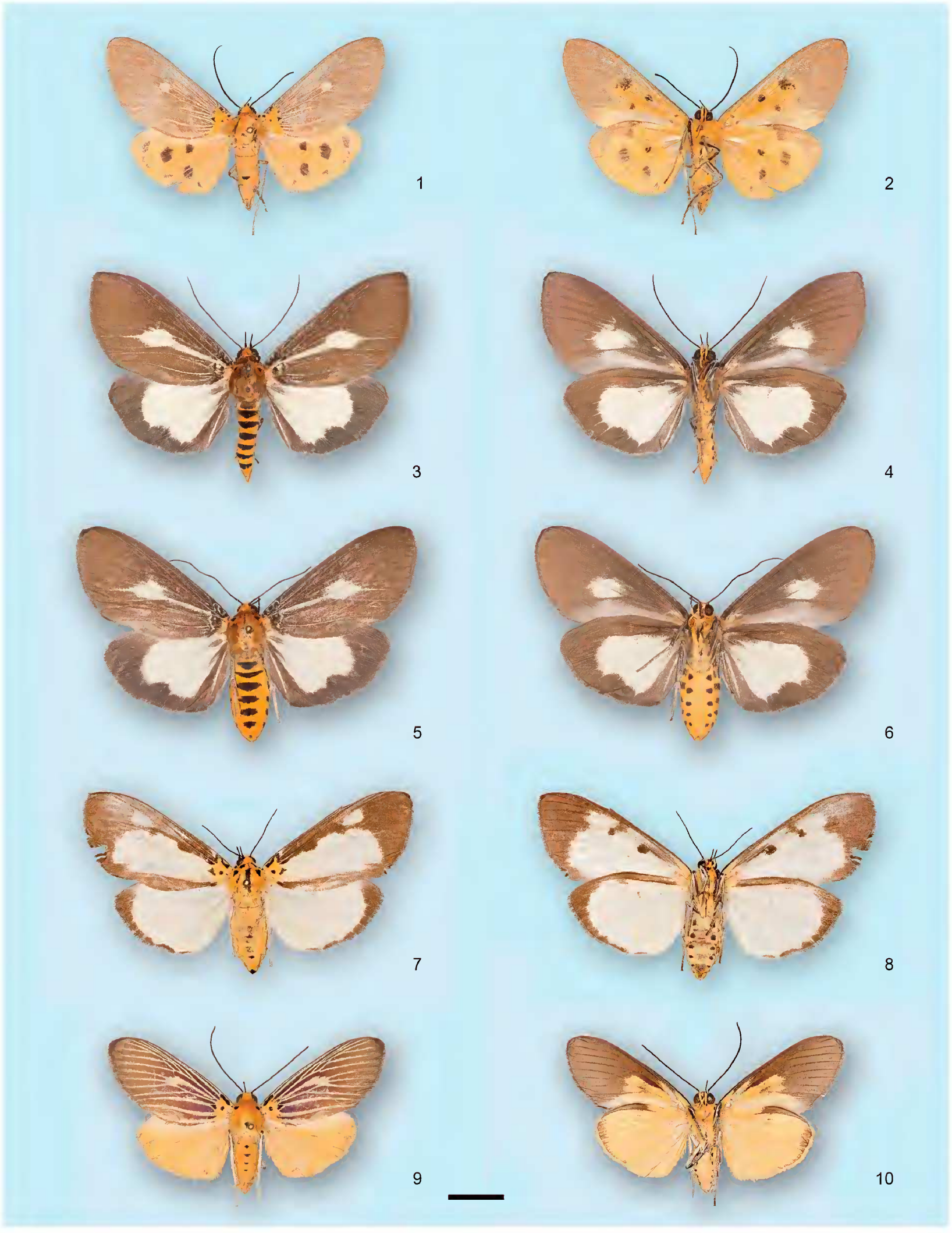
Figures 1-6. The places of night traps. 1 – Indonesia, W New Guinea, Papua, Sentani env., Cyclops Mts., 02°32'S, 140°28'E, ca. 300 m a.s.l., 28.XII.2008; 2 – Same place, 24.XII.2008; 3 – Indonesia, W New Guinea, Papua, Genyem env., 02°38'S, 140°10'E, ca 500 m a.s.l., 28.I.2009; 4 – Same place, 29.I.2009; 5 – Indonesia, W New Guinea, Papua, Taritatu riv., SE from Dabra, 03°15'S, 138°34'E, ca. 60 m a.s.l., 06.I.2009; 6 – Same place, 15.I.2009 (photo: A. Zamesov).

Figures 1-10. Habitus of Papuan Aganaidae. 1-2: *Agape chloropyga* (Walker, 1854); 1 – ♂, Papua, Genyem env.; 2 – ditto, underside; 3-4: *Neochera dominia* Cramer, 1780; 3 – ♀, Papua, Genyem env.; 4 – ditto, underside; 5-6: *Asota australis* (Boisduval, 1832); 5 – ♂, Papua, Genyem env.; 6 – ditto, underside; 7-10: *Asota eusemioides* (Felder, 1875); 7 – ♂, Papua, Genyem env.; 8 – ditto, underside; 9 – ♀, same locality; 10: ditto, underside [scale bar 10 mm].

Plate 7



Figures 1-10. Habitus of Papuan Aganaidae. 1-2: *Asota caricae* (Fabricius, 1775); 1 – ♂, Papua, Sentani env., Cyclops Mts.; 2 – ditto, underside; 3-6: *Asota heliconia* (Linnaeus, 1758); 3 – ♂, Papua, Genyem env.; 4 – ditto, underside; 5 – ♀, Papua, Sentani env., Cyclops Mts.; 6 – ditto, underside; 7-8: *Asota plana* (Walker, 1854); 7 – ♀, Papua, Genyem env.; 8 – ditto, underside; 9-10: *Asota strigosa* (Boisduval, 1832); 9 – ♂, Papua, Genyem env.; 10 – ditto, underside [scale bar 10 mm].